

## **GROUNDWATER-LEVEL MONITORING NETWORK**

Wisconsin's groundwater-level monitoring network has been operated jointly by the Wisconsin Geological and Natural History Survey (WGNHS) and the U.S. Geological Survey (USGS) since 1946, working in close cooperation with the Department of Natural Resources (DNR). As of June 2021, this network consists of 97 long-term monitoring wells and project-specific, limited-term monitoring wells. The long-term 97 permanent wells, or "Core Network," are in 47 of Wisconsin's 72 counties. This Core Network provides a consistent, long-term record of fluctuations in water levels in shallow and deep aquifers. The project-specific wells are supported with funding from various groundwater studies across the state and are generally only operational over the lifetime of an active groundwater study. These project wells provide valuable data and are often considered for addition to the Core Network if selection criteria are met.

Water levels collected from the network help scientists and managers evaluate effects of well pumping, the response of groundwater levels to drought or increased precipitation and effects of land-use change on groundwater resources. These data are also routinely used in the development of regional groundwater flow models, as long-term water-level measurements serve as reliable calibration targets.

In FY 2018, due to increasing reliance on network data to meet its Water Use program needs, DNR greatly expanded its funding and management support of the Core Network. On a day-to-day basis USGS and WGNHS continue to support the evaluation and maintenance of the monitoring network, aid in data collection, interpretation, and provide information to public and private clients through dedicated webpages. WGNHS provides a general overview of the monitoring network at <https://wgnhs.uwex.edu/water-environment/groundwater-monitoring-network>, and USGS maintains an interactive portal for viewing and downloading data at <https://waterdata.usgs.gov/wi/nwis/gw>.

In FY 2022, DNR committed \$100,000 to the Wisconsin Groundwater Monitoring Network and provided additional funding of \$75,875 to USGS to conduct additional monitoring on 5 stream gages, 1 lake gage, and 20 short-term project wells in central and northern Wisconsin. WGNHS received grants the USGS National Ground-Water Monitoring Network (NGWMN) program in FY 2019 and FY 2021 for \$198,089 and \$271,848 respectively. Once the work on both grants is completed, these two recent grants, together with a 2016 NGWMN grant will result in repairs to forty-three wells, eight well replacements, and nine new wells, adding four new counties to the Network (Barron, Buffalo, Dunn, and St. Croix).

In 2022 the DNR released a StoryMap illustrating the collaboration between DNR, WGNHS, USGS, UW System and others to collect water quantity data to support our understanding on groundwater levels and interaction between surface water and groundwater. Visit <https://storymaps.arcgis.com/stories/03c2609bb8bd470fafe2f4a83788f74d> to learn more.